

galvanic currents in the telegraphic wires when aurora borealis or magnetic perturbations appear. Finally the assembly unanimously approved three proposals by Count Wilczek:—1. To found, if possible, a special publication to convey more quickly to the knowledge of the scientific world, as well as to the leaders of the expeditions, the proposals and reports concerning the expeditions, as also their first results. 2. To leave, if possible, on the spot the buildings and other arrangements likely to be useful to future expeditions of the same kind, and to recommend them in each country to the care of navigators or of the inhabitants. 3. To ask railway and steamboat companies to grant a reduction in the fares for the staff and effects of the various international Polar expeditions. The stations proposed, we may state, are two on the north coast of Siberia, one in Novaya Zemlya, one in Spitzbergen, one on Jan Mayen Island, one on the west coast of Greenland, one at Lady Franklin Bay, one in the Behring's Strait region, and the participating countries are Russia, Sweden, Denmark, Germany, Austria, and the United States.

ON the 3rd of next month the members of the Italian scientific expedition for the exploration of the Arctic Seas will embark at Genoa in one of Lovarello's steamers. The zoology will be under the care of Dr. Vinciguerra; the botany will be confided to Dr. Lorenzo, at present residing at Buenos Ayres; mineralogy and geology to Prof. Lovisato, of the University of Sassari; and to Lieut. Roneagli the artistic department is given, for which purpose he will take photographic apparatus, &c. At Buenos Ayres the Commission will embark on a vessel belonging to the Argentine Republic. Lieut. Bove, who will take the command of the expedition, has already left for Buenos Ayres.

THE U.S. Government have been officially advised of the arrival of Lieut. Greeley's Polar Expedition at Lady Franklin Bay, six days after leaving Upernivik. The expedition entered Discovery Harbour on August 11, where a station was formed. The party were all well and plentifully provided.

ADVICES from Copenhagen state that the news received from the Dutch Polar Expedition on board the schooner *Willem Barents* is very unfavourable. Owing to the continuous ice barrier, which extends nearly to Norway, Spitzbergen could not be reached, nor yet even the Bear Islands; and after one more attempt to force through northward, the expedition will return home, as the captain is convinced that this year Novaya Zemlya is completely inclosed in a barrier of ice.

THE Russian Geographical Society has prepared short notices on the progress of different branches of geographical science from 1875 to 1881, *i.e.* from the second to the third Geographical Congress. Three of them are printed: (1) "Aperçu des Travaux Hydrographiques"; (2) M. Bogdanow: "Aperçu des Recherches Zoo-géographiques en Russie"; (3) P. Matveiev and A. Stichin-ky: "Aperçu des Études sur le Droit coutumier en Russie." Besides there are in preparation notices on botanical geography by M. Bataline, on geology by M. Alénitzin, and on Count Uvarow's work on the Stone Age in Russia, by L. Maikof. A. W. Grigorief and Dr. A. Woeikof will be the Russian official delegates to the third Geographical Congress. The absence of the celebrated Russian cartographers is much to be regretted; one of them, General Stubendorff, hoped to attend the Congress, but now it is known he will not be present.

THE new number of the Geographical Society's *Proceedings* is remarkable for the excellent map of Khorasan and the neighbouring countries, in illustration of Col. Stewart's account of his journey and investigations in the Tekke Turkoman country and the region of the Tejend and Murghab Rivers. The map goes beyond Merv and Herat on the east and takes in the south-east part of the Caspian on the west. There is also an article on the recent journey of two Baptist missionaries from Vivi, by the north bank of the Congo, to Stanley Pool. Dr. Matteucci's great geographical achievement in North Central Africa and subsequent death in London are sympathetically referred to in the Geographical Notes. The Society's telegram of condolence to the Geographical Society at Rome appears to have been much appreciated there, as it has been reproduced in the Italian papers. One of the most interesting items in the present number is a letter from Mr. W. H. Dall, of the United States Coast Survey, on "The Chukches and their Neighbours in the North-Eastern Extremity of Siberia." The letter is written in reply to some strictures which Lieut. Nordqvist, of the *Vega*, addressed

to the St. Petersburg Geographical Society, and which were noticed in the *Proceedings* for June.

THE Berlin African Society has received further news from several German explorers in Western Africa. Dr. Pogge and Lieut. Wissmann were at Malange at the end of May, hoping to start early in June, and to reach Kimbundo at the end of that month. From Robert Flegel news are to hand up to June 4. The members of the station at Kokoma are occupied with scientific collections and the exploration of the environs. Dr. Stecker is trying to reach the Central African lakes from Abyssinia.

A NEW volume of travels by Mr. E. A. Floyer, F.R.G.S., &c., entitled "Unexplored Baluchistan, a Survey of a Route through Western Baluchistan, Mekran, Bashakird, Persia, Kurdistan, and Turkey," will be published during the autumn by Messrs. Griffith and Farran. Mr. Floyer was the first to explore the wild district of Bashakird; he contributed a paper on that little-known country to the Plymouth meeting of the British Association. Besides the narrative, which is full of interesting personal incident and adventure, the work will contain original illustrations, a map, vocabularies of dialects, lists of plants collected and tabulated, and observations, astronomical and meteorological.

PROF. SIMONY has published a list of the greatest depths of various Alpine lakes, which may interest our readers: Gmunden Lake, 191, Hallstadt Lake 125, Attersee 171, Mondsee 67, Wolfgang Lake 114, Achensee 132, Königssee 188, Lake of Constance 276, Chiemsee 89, Starnberg Lake 131, Lake Lemau 309, Neufchâtel Lake 144 metres. The last-named four measures 92, 57, 589, and 240 square kilometres surface. The greatest depth of the northern part of the Adriatic is only 243 metres.

SCIENTIFIC SERIALS

The Journal of the Royal Microscopical Society, August, 1881, contains:—On some remarkable enlargements of the axial canals of sponge spicules and their causes, by Prof. P. Martin Duncan (plates 7 and 8).—On a blue and scarlet double stain, suitable for nerve and other animal tissues, by Dr. B. Wells Richardson. With the summary of recent researches, zoology, and botany, pp. 575 to 651; Microscopy, pp. 651-711.—*Proceedings of the Society for June*.

The American Naturalist for August, 1881, contains: The great crested fly-catcher, by Mrs. Mary Treat.—On the reasoning faculty of animals, by Joseph F. James.—On the progress of anthropology in America during 1880, by O. T. Mason.—On the manuscript Troana, by Cyrus Thomas.—The Editor's Table.—Some recent literature.—General notes and scientific news.

Proceedings of the Academy of Natural Sciences of Philadelphia, Part I, January to May, 1881, contains: Dr. Jos. Leidy, Rhizopods as food for young fishes.—Thomas Meehan, note on treeless prairies; motility in plants; sexual characters in *Fritillaria atropurpurea*, Nutt.—R. Arango, descriptions of new species of terrestrial mollusca of Cuba.—Rev. H. C. McCook, on the honey-ants of the Garden of the Gods. (This detailed memoir on the structure and habits of *Myrmecocystes melliger* is illustrated with ten plates.)—John A. Ryder, on the structure, affinities, and species of *Scolopendrella*. *S. gratia* is figured and described. An American specimen of what is presumed to be *S. notacantha* is also figured. The author places these strange insects in an order Symphyla, indicating that it has affinities to Thysanura; trachea are present. Henry Hemphell, on the variations of *Acmaea pelta*.—R. E. C. Stearns, observations on Planorbis (with many woodcuts).

American Journal of Science, August.—Method of obtaining and measuring very high vacua with a modified form of Sprengel pump, by O. N. Rood.—Geological relations of the limestone belts of Westchester county, New York; origin of the rocks of the Cortlandt series, by J. D. Dana.—New meteoric iron of unknown locality, in the Smithsonian Museum, by C. U. Shepard.—The relative motion of the earth and the luminiferous ether, by A. A. Michelson.—Observations on the light of telescopes used as night-glasses, by E. S. Holden.—Nature of dictyophyton, by C. P. Whitfield.—Observations on the comet, by H. Draper, C. A. Young, W. Harkness, L. Boss, and A. W. Wright.

Journal of the Franklin Institute, August.—Boiler explosion in Philadelphia in June, by W. B. Le Van.—Auchincloss's averaging machine.—Rad o-dynamics II., by P. E. Chase.—The properties of air relating to ventilation and heating, by R. Briggs.

Annalen der Physik und Chemie, No. 8.—Experimental investigation of the tones which arise in passage of gases through slits, by W. Kohlrausch.—On the observation of air-vibrations in organ-pipes, by R. König.—On the conductivity of metals for heat and electricity (continued), by L. Lorenz.—On the application of photometry to the study of the phenomena of diffusion in liquids, by S. v. Wroblewski.—Experimental contribution to the theory of influence-machines, by W. Holtz.—On the development of polar electricity in hemimorphous crystals by variation of pressure in the direction of the unsymmetrically formed axes, by W. Hankel.—On the decomposition of water on platinum electrodes by discharge of Leyden jars, by F. Streintz.—On the resistance of polarised cells, by E. Cohn.—On the phenomena in Geissler tubes under external action, by E. Reitlinger and H. v. Urbanitzky.—Note on the maximum of temporary magnetism in soft iron, by C. Fromme.

La Nature, August.—The air-barometer, by Prof. Ferrini. The electro-photometer of Dr. Nachs.—On the electric phenomena of Canton's jar, by Prof. Righi.—On the origin of electricity in storm-clouds and atmospheric air, and on electricity in general, by Dr. Nachs.—On the direction of sounds and the object of double hearing, by Prof. Pinto.

Journal de Physique, August.—Researches on the capacity of polarisation (continued), by R. Blondlot.—Discharge of a condenser, and energy of telephonic currents, by H. Pellat.—On a new interrupter for induction-coils, by M. Deprez.—Note on the registering instruments of MM. Richard frères.

Bulletin de l'Académie Royale des Sciences de Belgique, No. 6.—Note on a new dolphin of New Zealand, by M. van Beneden.—A word on some new infusoria parasitic on Cephalopoda, by M. Foettinger.—Study on the hypophysis of Ascidians and the neighbouring organs (second paper), by M. Julin.—Note on the fossiliferous Porphyroids met with in Brabant, by M. Poussin.

Reale Istituto Lombardo di Scienze e Lettere. Rendiconti. Vol. xiv. fasc. xii., xiii.—Researches on the phenomena of sense, motion, circulation, and respiration in hypnosis, and on their modification by aesthesiogenic agents, by Prof. Tamburini and Dr. Sepilli.—On some products of transformation of chinoline, by Prof. Körner.—Theorem on linear systems in projective measurements, by Prof. D'Ovidio.—Consequences of pachymeningitis and hematoma of cerebral membranes, by Prof. Sangalli.—Fasc. xiv.—On the small volcano of Quetzola in the province of Reggio, by S. Taramelli.—On the resistance to passage of the voltaic current in an iron wire at different temperatures, by Dr. Poloni.

Rivista Scientifico-Industriale, July 1 and 15.—Determination of vapour density, by Dr. Valente.—Palaeontological peregrinations in the Pliocene of Mount Falcone Apenino, in the province of Fermo (Marche), by Prof. Spada.—On determination of the electromotive force of the Voltaic couple by Fuchs' method, by Dr. Guglielmo.

SOCIETIES AND ACADEMIES PARIS

Academy of Sciences, September 5.—M. Wurtz in the chair.—The following papers were read:—The direct-vision spectroscope applied to physical astronomy, by M. Zenger. One may (as before shown) compound refringent media whose index for the red ray A is less than that of crown glass or quartz, while the index for the violet ray H is much greater. The spectrum so produced is fan-shaped, and with a single dispersion parallelepiped (two similar prisms with their refringent angles opposite), may be made of considerable length (25° and more). With one arrangement all the rays, except blue or red, may be eliminated, and the sun, e.g., viewed in monochromatic light. M. Zenger specifies various combinations of quartz or crown glass with anethol, benzene, alcohol, &c. He obtains effects equal to those of the most powerful spectroscopes hitherto made.—Influence of nutrition on poisoning with strychnine, by M. Delaunay. Strychnine affects more quickly and intensely strong frogs than weak ones; frogs well fed than those which

have been fasting; frogs that have been in vigorous exercise than those at rest; frogs that are exercised immediately after injection than those which are not; a frog hung by the leg than one hung by the head; an intact frog than one which has been bled; the right side of frogs than the left, &c.—Observations of Cruls' comet (*b* 1881) at Marseilles Observatory, with an equatorial of 0.26 n. aperture, by MM. Borelly and Coggia.—Observations of Schäberle's comet (*c* 1881) in the same way and place, by M. Coggia.—Observations of Encke's comet, by M. Tempel. He observed it on the 21st ult. A letter from M. Loewy stated that M. Struve found it on the 24th (MM. Winnecke and Hartwig at Strasburg about the same time). The comet (according to M. Tempel) was large, but very diffuse, without nucleus or condensation towards the centre, and so, very difficult to observe.—On the light of comets, by M. Respighi. He considers we are not yet in a position to say that comets have a light of their own, due to incandescence of cometary matter. The discontinuity of the spectrum, and the bright lines and bands, may arise from reflected light as affected in traversing the gases and vapours of the comet; the same cause as affects the spectrum of the sun when near the horizon. Only the phenomenon is exaggerated in comets by reason of the enormous thickness of the absorbent layers, their richness of chemical composition, and the weakness of the light they reflect to us.—On observations of meteors from July 25 to 30, 1881, by M. Cruls (Rio). More than 90 per cent. of the meteors seemed to radiate from near Fomalhaut. The hourly average increased rapidly between the evening and morning hours, and there was a remarkable recrudescence shortly before sunrise. It would thus seem that the stream of meteors moves in opposite direction to the earth. This is corroborated by the fact that the morning meteors, especially after 5 a.m., all moved with great velocity, and were very brilliant. They were all sensibly displaced in the plane of the ecliptic; their direction is probably very little inclined to this plane.—On ferruginous carbonated waters, by M. Ville. Neutral alkaline carbonates precipitate such water immediately; neutral alkaline earthy carbonates also have this effect, but more slowly. Alkaline and alkaline-earth bicarbonates do not alter ferruginous water. Chlorides and sulphates sensibly retard the decomposition of ferruginous water in air. The disturbing influence of neutral alkaline carbonates may explain the relation between the richness of ferruginous carbonated waters and the presence of these saline compounds. The action of neutral carbonate of calcium explains the existence of considerable beds of limonite in calcareous strata.—On absorption by the vesical mucus, by MM. Cazeneuve and Lépine. The sound bladder absorbs the normal elements of urine. Certain toxic or medicamentary substances (e.g., sulphate of strychnine) are not absorbed.—On experimental tuberculosis, by M. Brunet.

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